

Techniques for the evaluation of concrete structures after fire

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Case study



Colour measurement



red (300-600°C)
whitish grey (600-900°C)
yellow (900-1000°C)

20°C



300°C



700°C

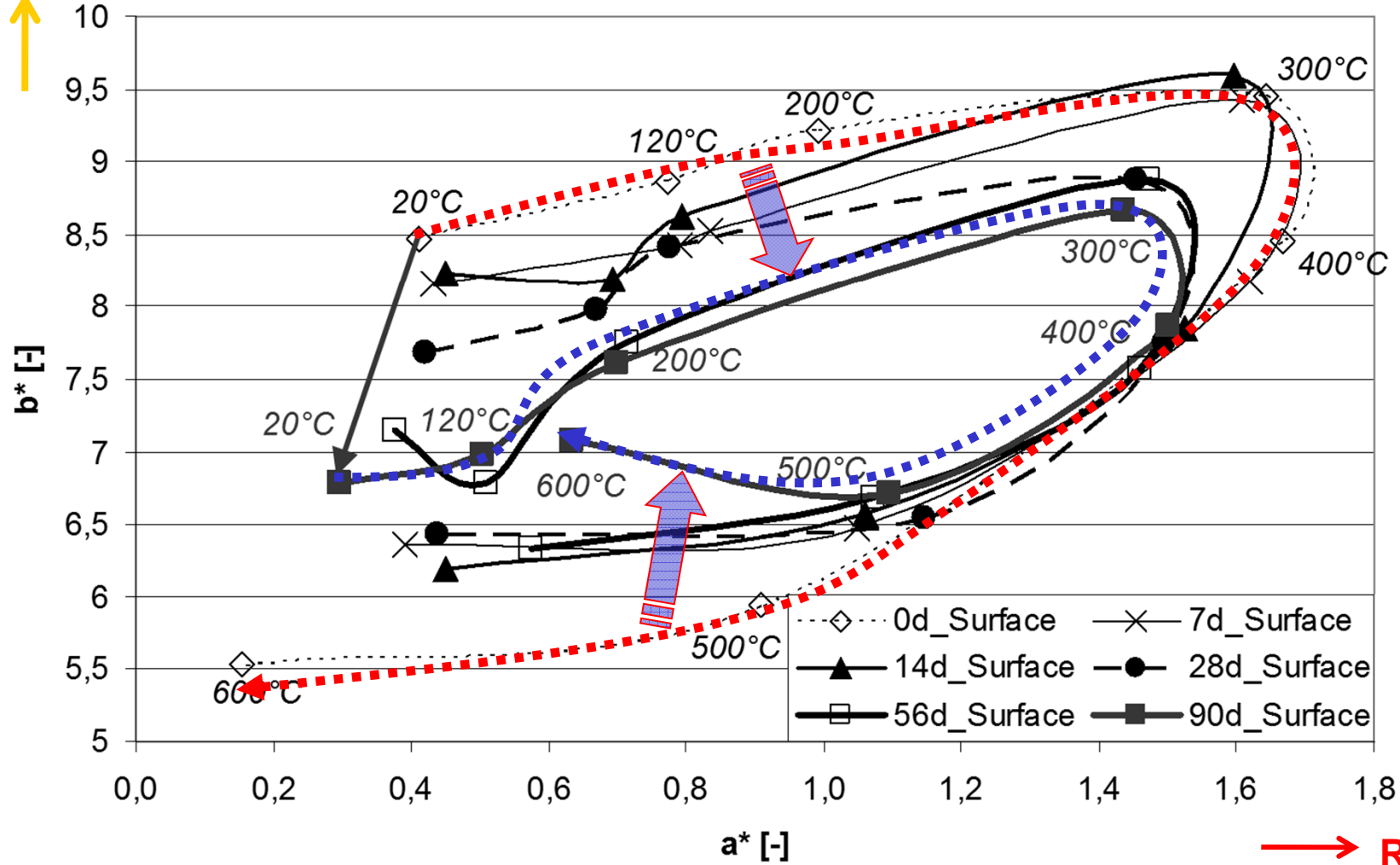


1160°C

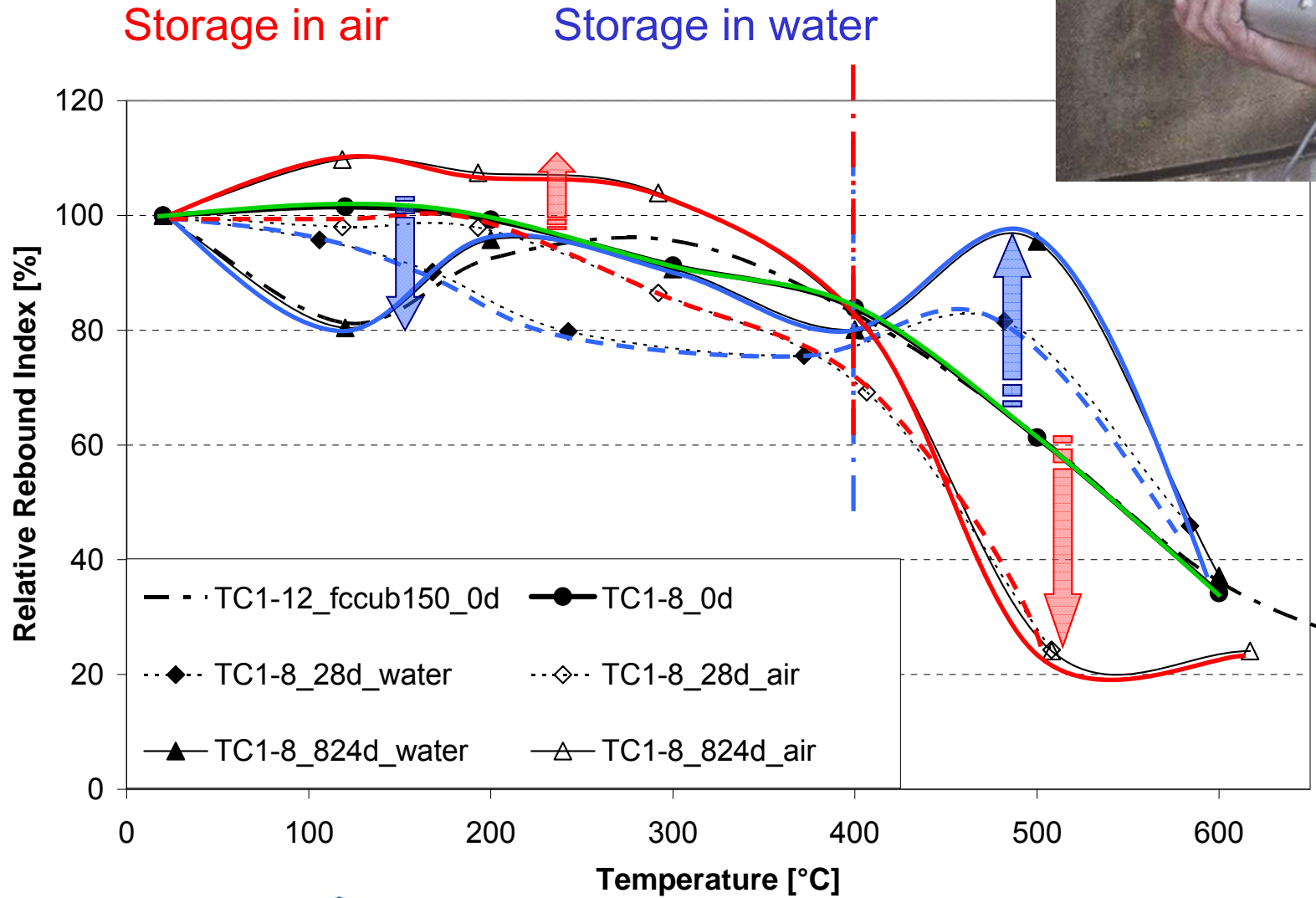


Influence moisture content

Yellow



Schmidt Rebound Hammer



Test results

$RI_T/RI_{20^\circ C} \geq 0.85$: superficially damage
 $0.85 \geq RI_T/RI_{20^\circ C}$: further investigation necessary



Test location		Direction of measurement	Average	Standard deviation	$RI_T/RI_{20^\circ C}$ [-]
Reference girder	web	side	45.6	2.0	1.00
	flange	side	44.3	2.5	1.00
	flange	bottom	50.9	1.0	1.00
Location 1	web	side 1	36.8	1.8	0.81
	web	side 2	41.2	1.1	0.90
	flange	side 1	30.8	2.3	0.70
	flange	bottom	44.8	1.1	0.88
Location 2	web	side 2	38.0	1.4	0.83
	flange	side 2	30.0	5.7	0.59
	flange	bottom	39.6	1.7	0.78
Location 3	web	side 1	41.0	2.4	0.90
	flange	side 2	44.6	1.3	0.98
	flange	bottom	47.8	4.1	0.94

Test results

